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IS 4468-2 (1993): Agricultural wheeled tractors -
Three-point linkage, Part 2: Category 1 N (Narrow Hitch)
[FAD 11: Agricultural Tractors and Power Tillers]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

पहियेदार कृषि ट्रैक्टर — तीन पिन वाला जोड़

भाग 2 संवर्ग 1 एन (संकरा खटका)

(तीसरा पुनरीक्षण)

Indian Standard

AGRICULTURAL WHEELED TRACTORS —
THREE-POINT LINKAGE

PART 2 CATEGORY 1 N (NARROW HITCH)

(Third Revision)

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NEW DELHI 110002

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Price Group 2

NATIONAL FOREWORD

This Indian Standard, which is identical with ISO 730-2 : 1979 'Agricultural wheeled tractors—Three-point linkage — Part 2 : Category 1 N (Narrow hitch)', issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Agricultural Tractors and Power Tillers Sectional Committee (FAD 32) and approval of the Food and Agriculture Division Council.

IS 4468 : 1986 'Three point linkage for agricultural wheeled tractors' was first published in 1967 and revised in the years 1977 and 1986. In order to make it more implementable and to align with the corresponding following international standards:

ISO 730-1 : 1990 Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 1 : Categories 1, 2 and 3

ISO 730-2 : 1979 Agricultural wheeled tractors — Three-point linkage — Part 2 : Category 1 N (Narrow hitch)

ISO 730-3 : 1982 Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 3 : Category 4

IS 4468 has been revised again.

In this revision the three parts of ISO 730 have been adopted as dual number standards with splitting IS 4468 into following three parts:

IS 4468 (Part 1) Agricultural wheeled tractors — Rear-mounted three-point linkage : Part 1 Categories 1, 2 and 3

IS 4468 (Part 2) Agricultural wheeled tractors — Rear-mounted three-point linkage : Part 2 Category 1 N (Narrow hitch)

IS 4468 (Part 3) Agricultural wheeled tractors — Rear-mounted three-point linkage : Part 3 Category 4

In the adopted standard certain terminology and conventions are not identical with those used in the Indian Standards; attention is drawn specially to the following:

- a) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use a point (.) as the decimal marker.
- b) Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Indian Standard'.

In this Indian Standard, the following International Standard has been referred. The corresponding Indian Standard is given below:

<i>International Standard</i>	<i>Indian Standard</i>	<i>Degree of Correspondence</i>
ISO 730-1 : 1990 Agricultural wheeled tractors — Rear-mounted three-point linkage — Part 1 : Categories 1, 2 and 3	IS 4468 (Part 1) : 1993 Agricultural wheeled tractors — Rear-mounted three-point linkage : Part 1 Categories 1, 2 and 3	Identical

The technical committee responsible for the preparation of this Indian Standard has reviewed the provisions of the following ISO standard and has decided that it is acceptable for use in conjunction with this standard:

ISO 789-1 : 1983 Agriculture tractors — Test procedures — Part 1 : Power tests lifting capacity

For additional information, IS 12036 : 1987 Method of test for power take-off and belt-pulley performance of agriculture tractors is available but is not technically equivalent with ISO 730-1 : 1983.

Indian Standard

AGRICULTURAL WHEELED TRACTORS — THREE-POINT LINKAGE

PART 2 CATEGORY 1 N (NARROW HITCH)

(Third Revision)

1 SCOPE

This International Standard specifies the requirements for the attachment of implements or equipment to the rear of narrow agricultural wheeled tractors by means of a three-link hitch in association with a power lift.

2 FIELD OF APPLICATION

This International Standard applies to narrow agricultural wheeled tractors with a maximum power at the drawbar¹⁾ up to 35 kW.

3 REFERENCES

ISO 789/1, *Agricultural tractors — Test procedures — Part 1 : Power tests*.²⁾

ISO 730/1, *Agricultural wheeled tractors — Three-point linkage — Part 1 : Categories 1, 2 and 3*.

4 DEFINITIONS

4.1 General

See ISO 730/1.

4.2 Components of the linkage

See ISO 730/1.

4.3 Dimensional characteristics of the linkage

See ISO 730/1, except definition 21; for the purposes of the present document the following definition applies :

21 mast adjustment³⁾ : The usable range of movement

of the mast in a vertical plane. It is measured as the maximum and minimum heights of the lower hitch points above the ground between which a mast of height 360 mm can be adjusted to any inclination between the vertical and 10° to the vertical towards the rear.

5 DIMENSIONS⁴⁾

5.1 Hitch points and zone around the hitch points

The dimensions concerning the hitch points shall be as given in table 2 and those concerning the zone around the hitch points shall be as given in table 1.

5.2 Lift, power lift, and levelling adjustments

The ranges of lift, power lift and levelling adjustments shall be as given in table 3.

6 POWER LIFT CAPACITY

A minimum lift force of 300 N for each drawbar power unit (kW) shall be available at a distance of 610 mm to the rear of the hitch points.

NOTE — The above mentioned value relates to 90 % of the hydraulic relief valve pressure setting and the recommended mast height.

When determining the lift force, a minimum angle of 10° between the vertical and the mast shall be observed; see figure 1.

1) As given in ISO 789/1.

2) At present at the stage of draft. (Revision of ISO/R 789-1968.)

3) Adjustment of the mast controls the pitch of the implement. Specifying the mast adjustment to be provided enables the tractor designer to determine the minimum acceptable adjustment of the length of the top link in relation to the points of attachment of the linkage; it also permits the implement designer to determine the range of operating depths of the implement over which pitch adjustment can be obtained.

4) Dimensions are based on the assumption that the tractor manufacturer's normal wheel equipment is fitted.

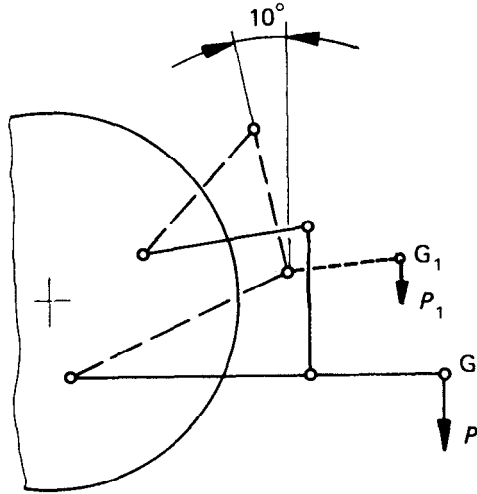
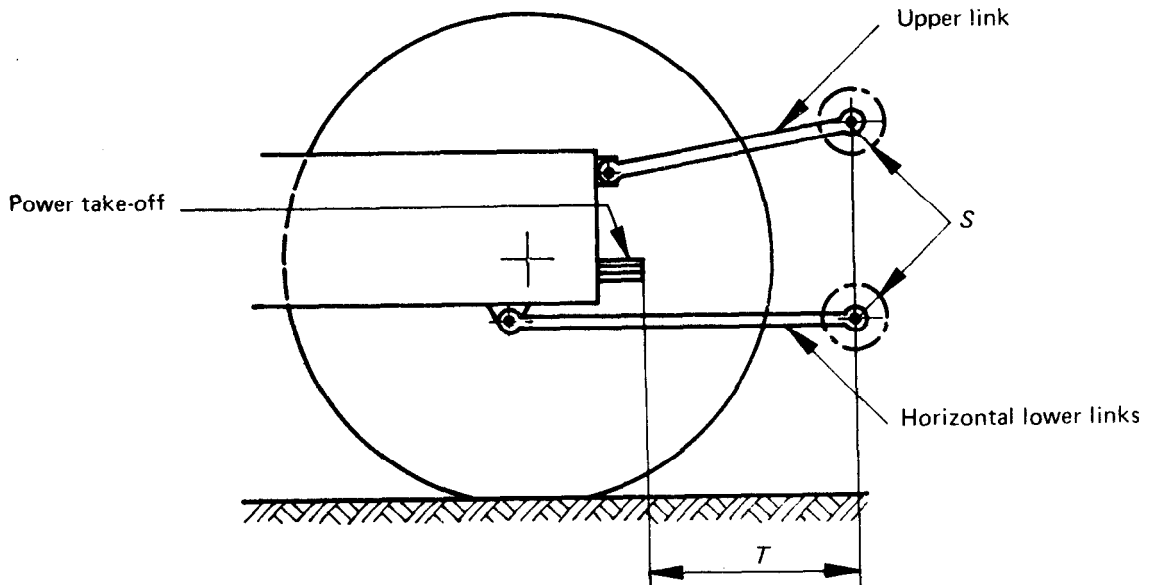


FIGURE 1 – Minimum angle between the vertical and the mast

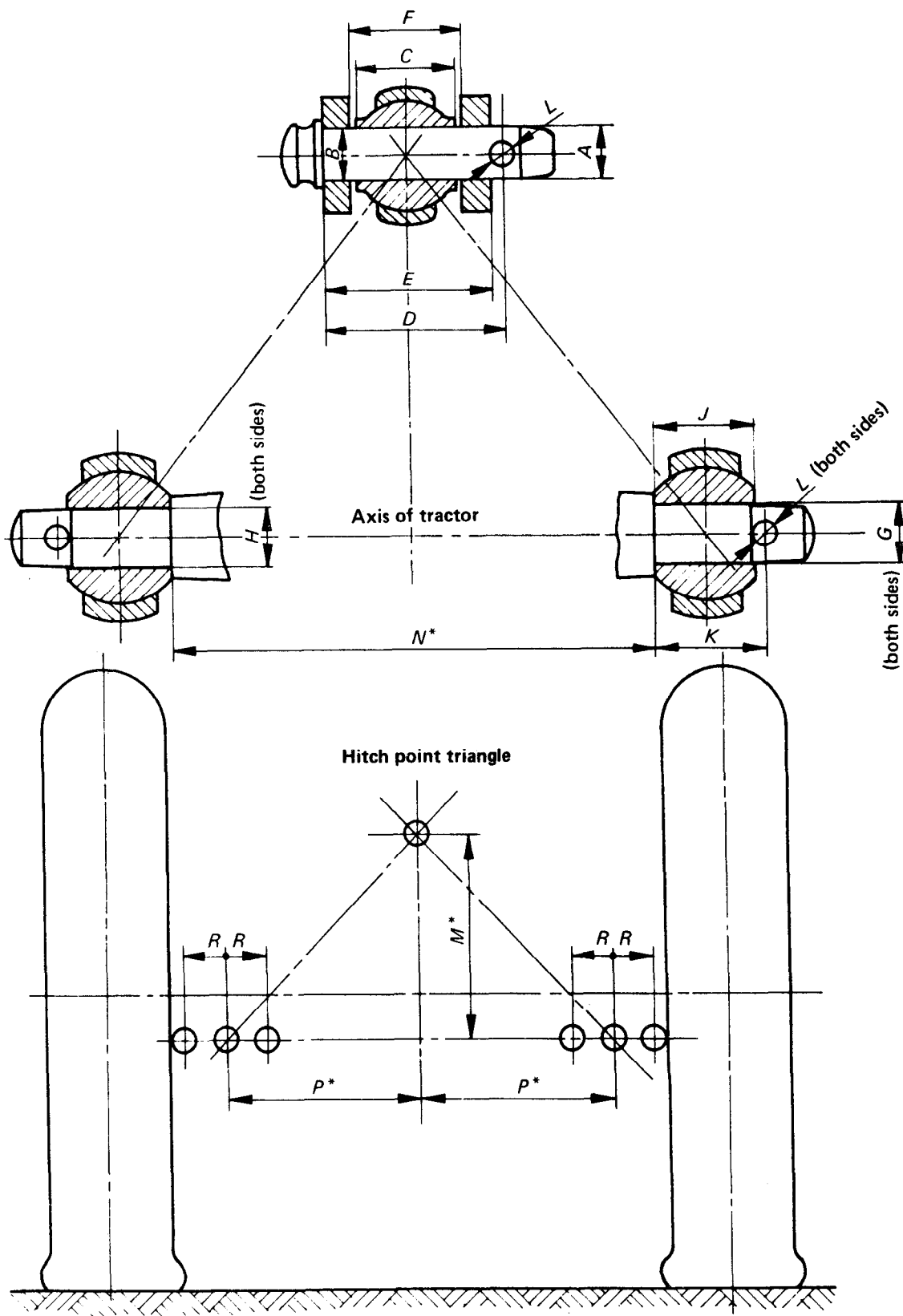


**FIGURE 2 — Relation between power take-off and rear hitch points.
Zones of clearance around hitch points**

TABLE 1 – Dimensions concerning the zone around hitch points
(see figure 2)

Dimensions in millimetres

Dimension	Dimensional characteristics	Category 1 N	
		min.	max.
<i>S</i>	Zone of clearance around each hitch point, spherical radius	45	—
<i>T</i>	Distance from end of power take-off to centre of lower hitch point. Lower link in horizontal position	300	375



Recommended dimensions. It may be necessary to vary these dimensions in the case of specialized implements.

FIGURE 3 – Dimensions concerning the hitch points

TABLE 2 — Dimensions concerning hitch points
(see figure 3)

Dimensions in millimetres

Dimension	Dimensional characteristics	Category 1 N	
		min.	max.
	Upper hitch points		
A	Diameter of hitch pin	18,92	19
B	Diameter of hitch pin hole	19,3	19,51
C	Width of ball	—	44
D	Linch pin hole distance	76	—
E	Width between outer faces of yoke	—	69
F	Width between inner faces of yoke	44,5	—
	Lower hitch points		
G	Diameter of hitch pin	21,79	22
H	Diameter of hitch pin hole	22,4	22,73
J	Width of ball	34,8	35,0
K	Linch pin hole distance*	39	—
	Linch pin hole		
L	Diameter of linch pin hole for upper hitch pin	12	—
M	Mass height	360** (min.)	
N	Lower hitch point span	400 ± 1,5**	
P	Lateral distance from lower hitch point to centreline of tractor	218**	
R	Lateral movement of lower hitch point	50	—

* When lateral stays picking up on the lower hitch point holes are employed to limit side sway of the implement, the minimum dimension shall be 51 mm.

** Recommended dimensions. It may be necessary to vary these dimensions in the case of specialized implements.

TABLE 3 — Lift, power lift and adjustment ranges

Dimensions in millimetres

Reference in sub-clause 4.3	Dimensional characteristics	Category 1 N
14	Lower hitch points height	200 (max.)
15	Levelling adjustment range	75 (min.)
18	Power range	420 (min.)
19	Transport height (lower hitch point axis to be horizontal throughout)	600 (min.)
20	Lower hitch point clearance	100 (min.)
21	Mast adjustment	
	Minimum height for highest position	420
	Maximum height for lowest position	200

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